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Patent claims

1. Multilayer interference pigment consisting of a transparent carrier material coated with alternating
5 layers of metal oxides of low and high refractive index, the difference in the refractive indices being at least 0.1, which is obtainable by alternate coating of the transparent carrier material with a metal oxide of high refractive index and with a metal oxide of low
10 refractive index in a wet process by hydrolysis of the corresponding water-soluble metal compounds, separation, drying and, if desired, calcination of the resulting pigment.
2. Interference pigment according to Claim 1,
15 characterized in that the transparent carrier material is mica, a different phyllosilicate, glass flakes, $\text{PbCO}_3 \times \text{Pb(OH)}_2$, BiOCl or plateletlike SiO_2 .
3. Interference pigment according to Claims 1 and 2, characterized in that the oxide of high refractive
20 index is TiO_2 , ZrO_2 , Fe_2O_3 , Fe_3O_4 , Cr_2O_3 , ZnO or a mixture of these oxides or an iron titanate, iron oxide hydrate, a titanium suboxide or a mixture or mixed phase of these compounds.
4. Interference pigment according to at least one
25 of Claims 1 to 3, characterized in that the metal oxide of low refractive index is SiO_2 , Al_2O_3 , AlOOH , B_2O_3 or a mixture thereof, it being possible if desired for alkali metal oxides or alkaline earth metal oxides to be present as additional constituents.
- 30 5. Process for the preparation of the interference pigment according to Claims 1 to 4, characterized in that the transparent carrier material is suspended in water and coated in alternation with a metal oxide hydrate of high refractive index and with a metal oxide
35 hydrate of low refractive index by addition and hydrolysis of the corresponding water-soluble metal compounds, the pH necessary for the precipitation of the respective metal oxide hydrate being established and held constant by simultaneous addition of acid or

base, and then the coated carrier material is separated off from the aqueous suspension, dried and, if desired, calcined.

5 6. Process according to Claim 5, characterized in that the transparent carrier material employed is mica, a different phyllosilicate, $\text{PbCO}_3 \times \text{Pb(OH)}_2$, BiOCl or plateletlike SiO_2 .

10 7. Process according to Claims 5 and 6, characterized in that the metal oxide of high refractive index is TiO_2 , ZrO_2 , Fe_2O_3 , Fe_3O_4 , Cr_2O_3 or ZnO .

15 8. Process according to at least one of Claims 5 to 7, characterized in that the metal oxide of low refractive index is SiO_2 , Al_2O_3 , AlOOH , B_2O_3 or a mixture thereof, it being possible if desired for alkali metal oxides or alkaline earth metal oxides to be present as additional constituents.

20 9. Process according to at least one of Claims 5 to 8, characterized in that the metal oxides are applied, after intermediate drying of the material to be coated, in a fluidized-bed reactor by CVD.

10. Use of the pigments according to Claims 1 to 4 for pigmenting paints, printing inks, plastics, cosmetics, glazes for ceramics and glasses.

25 11. Use according to Claim 10, characterized in that the pigments are employed as mixtures with customary commercial pigments.

12. Use of the pigments according to Claims 1 to 4, for the laser marking of plastics.

30 13. Paints, printing inks, plastics, cosmetics, ceramics and glasses pigmented with a pigment according to Claims 1 to 4.

14. Laser-markable plastics comprising pigments according to Claims 1 to 4.